10/018969

FIG.1

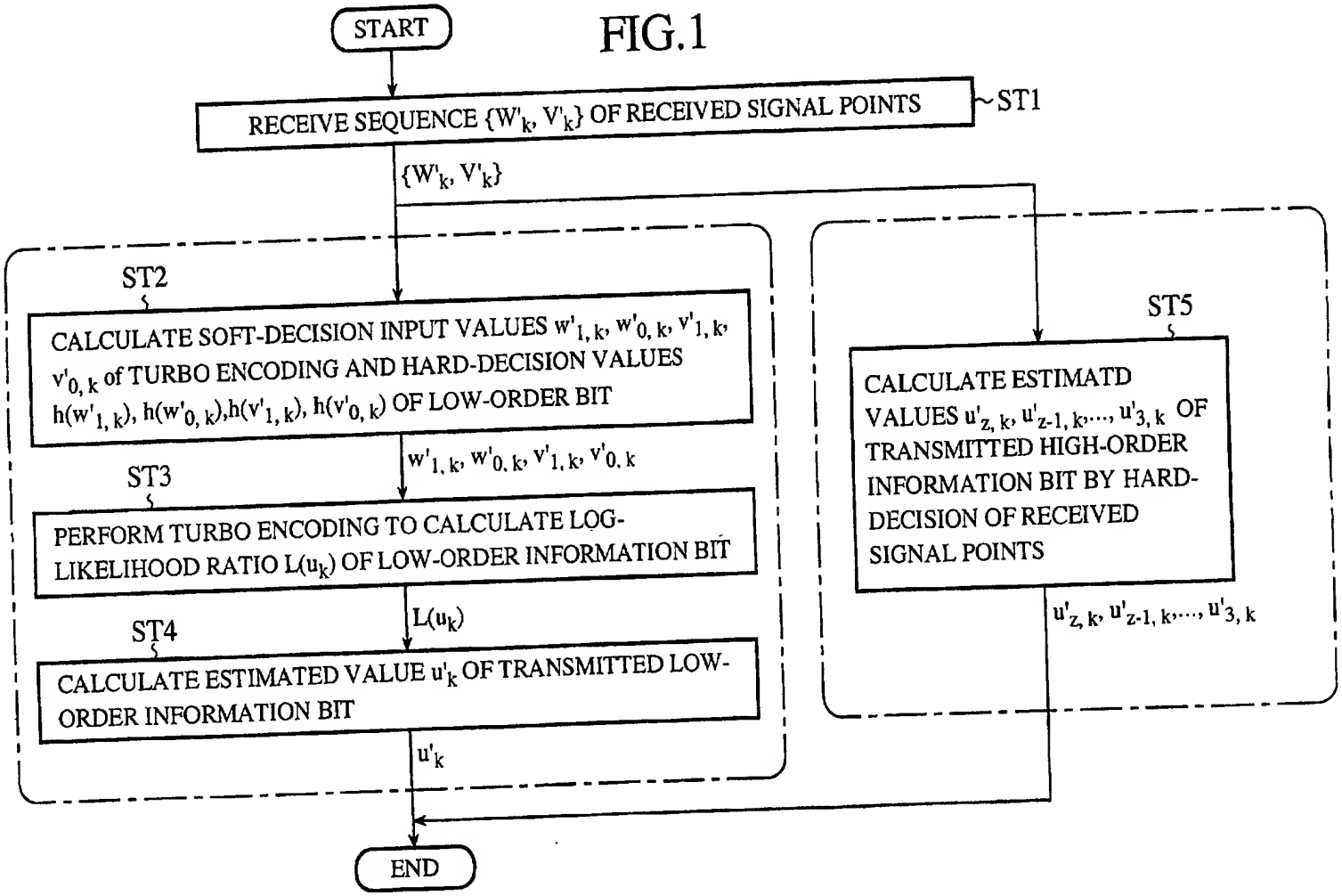
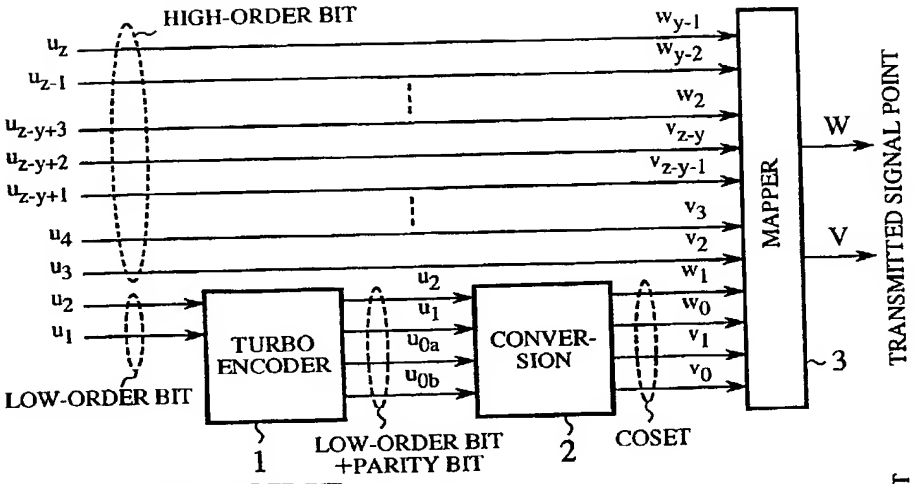
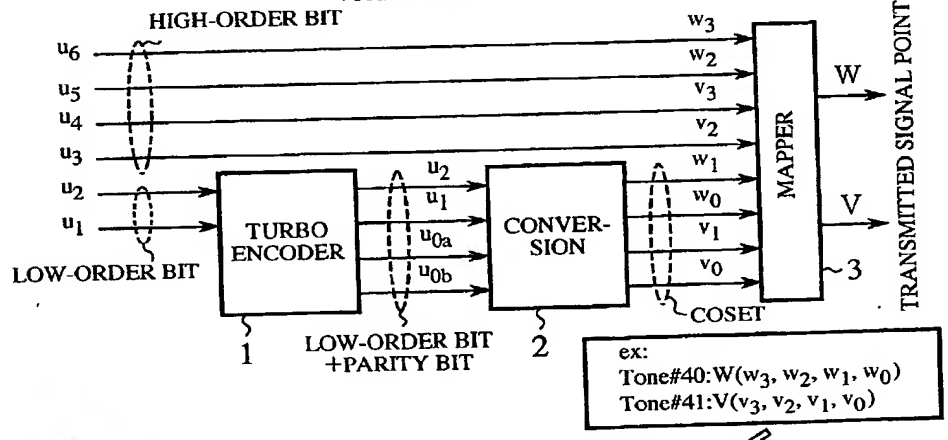


FIG.2

(a)


HIGH-ORDER BIT
LOW-ORDER BIT
TURBO ENCODER
CONVER-SION
MAPPER
TRANSMITTED SIGNAL POINT
W
V
3
1
LOW-ORDER BIT +PARITY BIT
2
COSET

(b)


HIGH-ORDER BIT
LOW-ORDER BIT
TURBO ENCODER
CONVER-SION
MAPPER
TRANSMITTED SIGNAL POINT
W
V
3
1
LOW-ORDER BIT +PARITY BIT
2
COSET
ex:
Tone#40:W(w3, w2, w1, w0)
Tone#41:V(v3, v2, v1, v0)

(c)

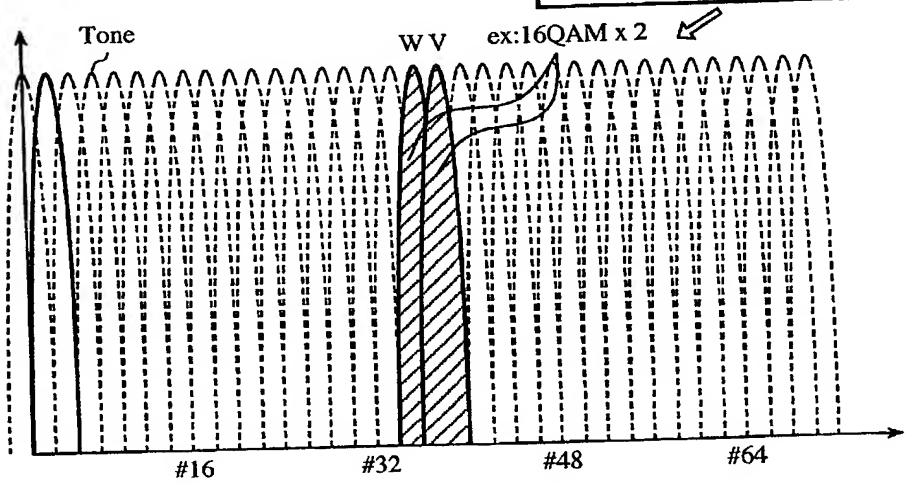

Tone
W V
ex:16QAM x 2
#16
#32
#48
#64

FIG.3

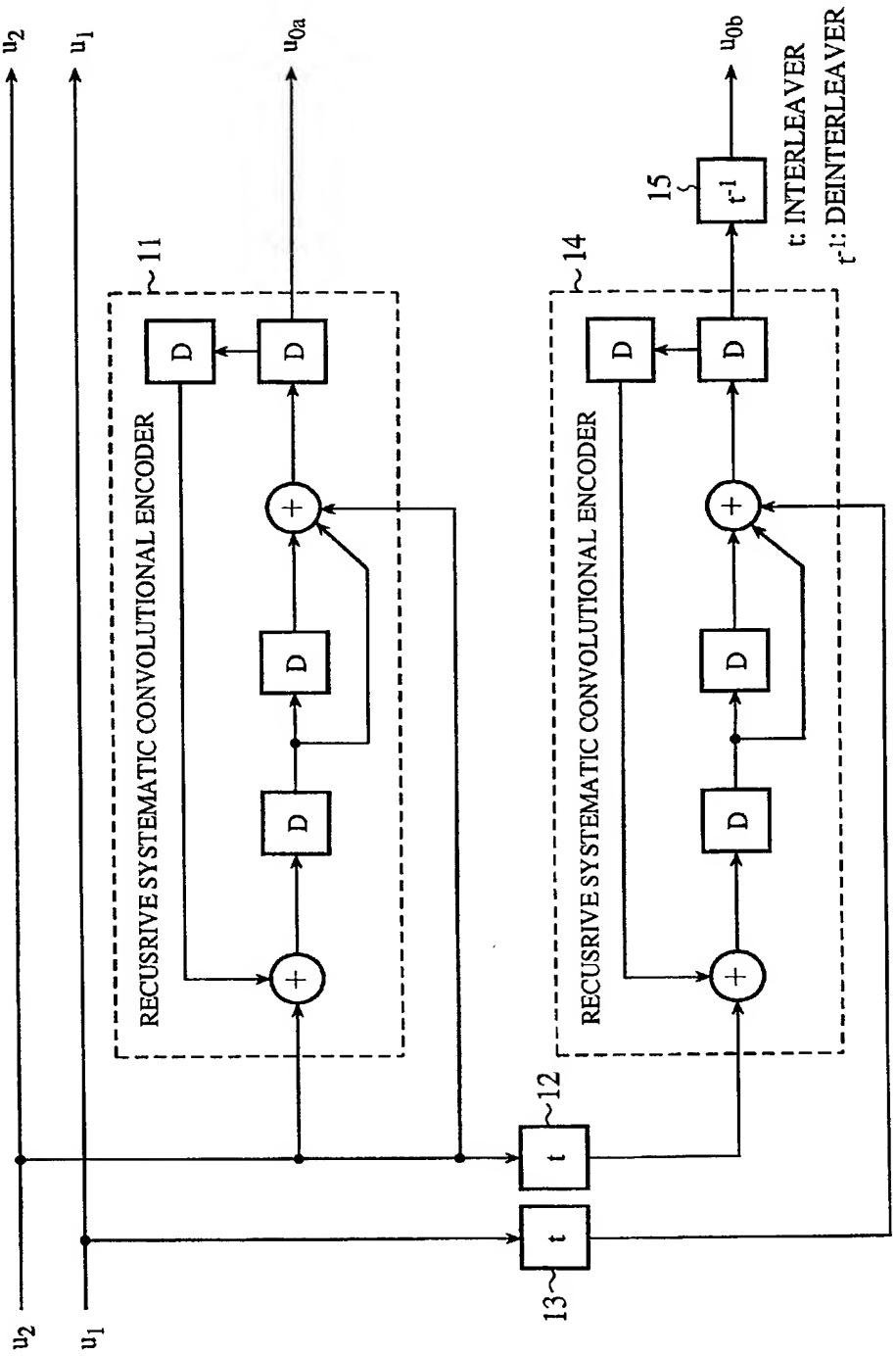
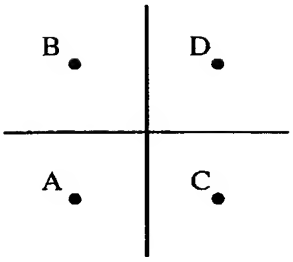
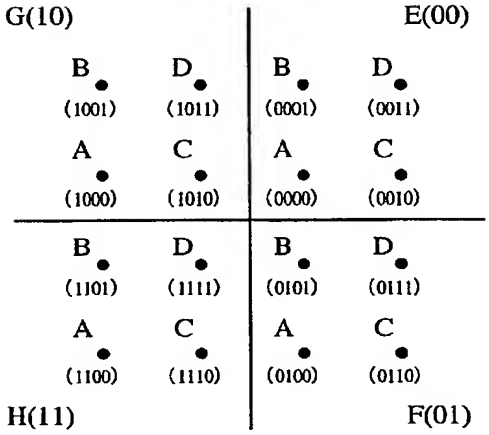

u2
u1
u0a
u0b
RECUSRIVE SYSTEMATIC CONVOLUTIONAL ENCODER
RECUSRIVE SYSTEMATIC CONVOLUTIONAL ENCODER
D
+
11
12
13
14
15
t
t-1
t: INTERLEAVER
t-1: DEINTERLEAVER

FIG.4

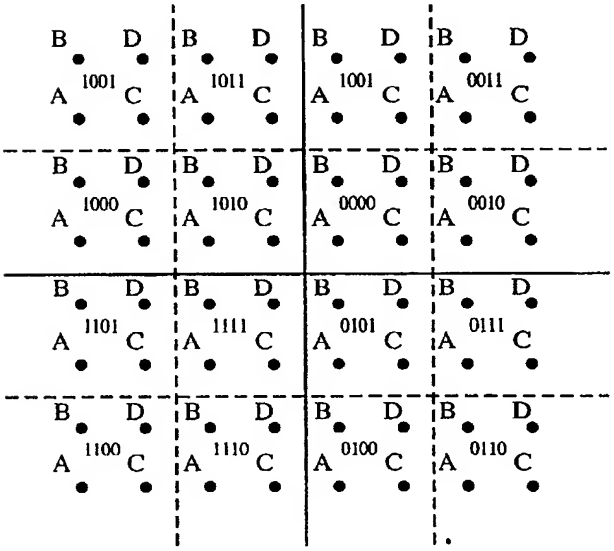
(a)



(b)



(c)



(d)

COSET	w_1	w_0
A	0	0
B	0	1
C	1	0
D	1	1

(e)

AREA	w_3	w_2
E	0	0
F	0	1
G	1	0
H	1	1

FOREIGN DOCUMENT

FIG.5

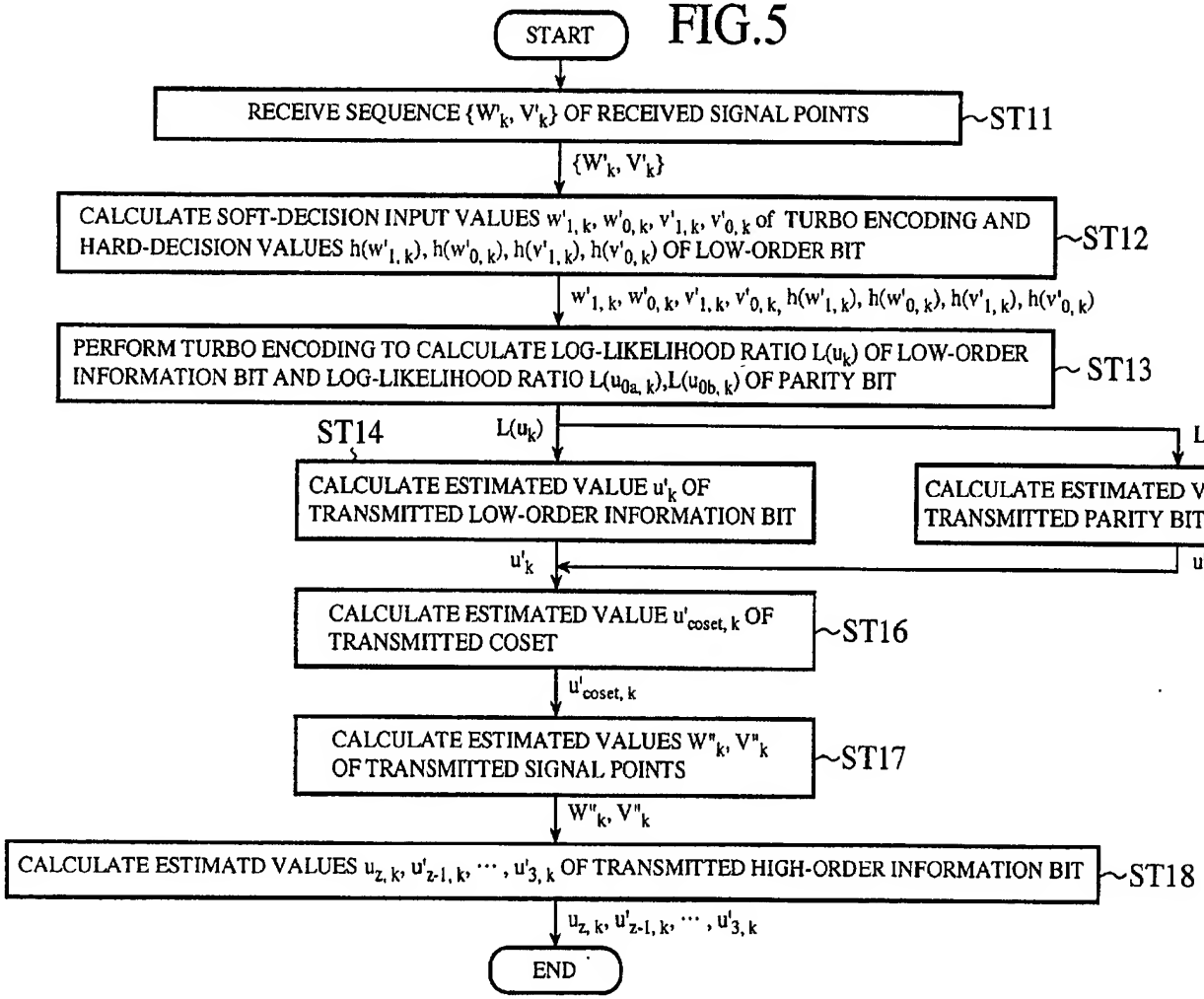


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FIG.6

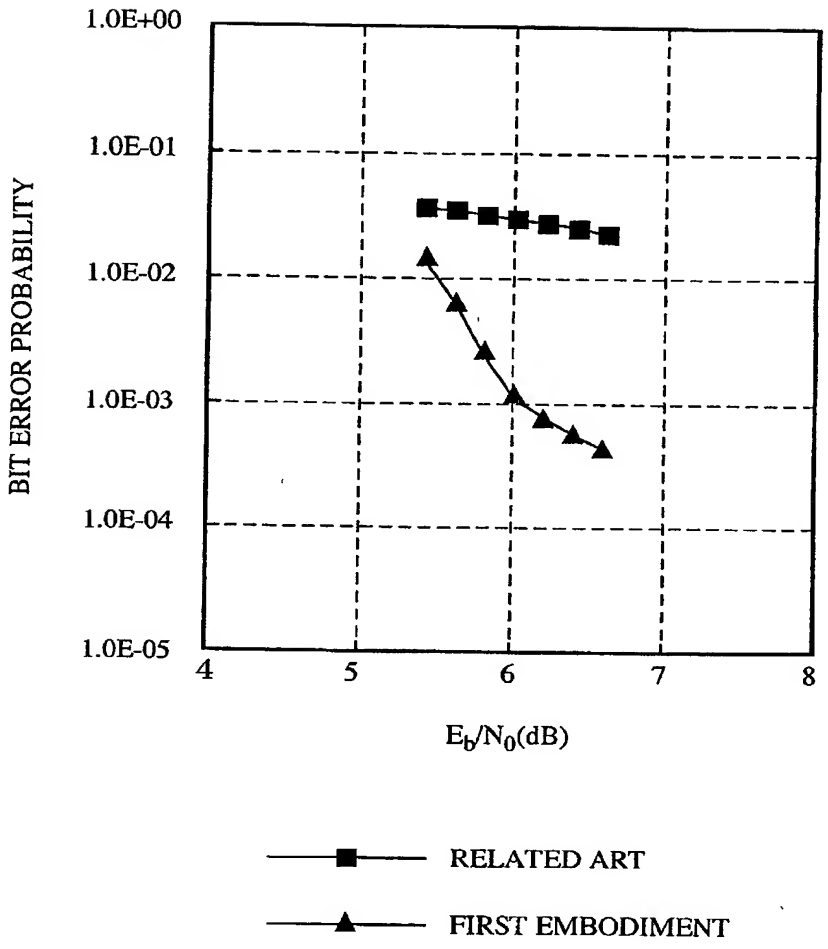

1.0E+00
1.0E-01
1.0E-02
1.0E-03
1.0E-04
1.0E-05
BIT ERROR PROBABILITY
4
5
6
7
8
E_b/N_0(dB)
RELATED ART
FIRST EMBODIMENT

FIG.7

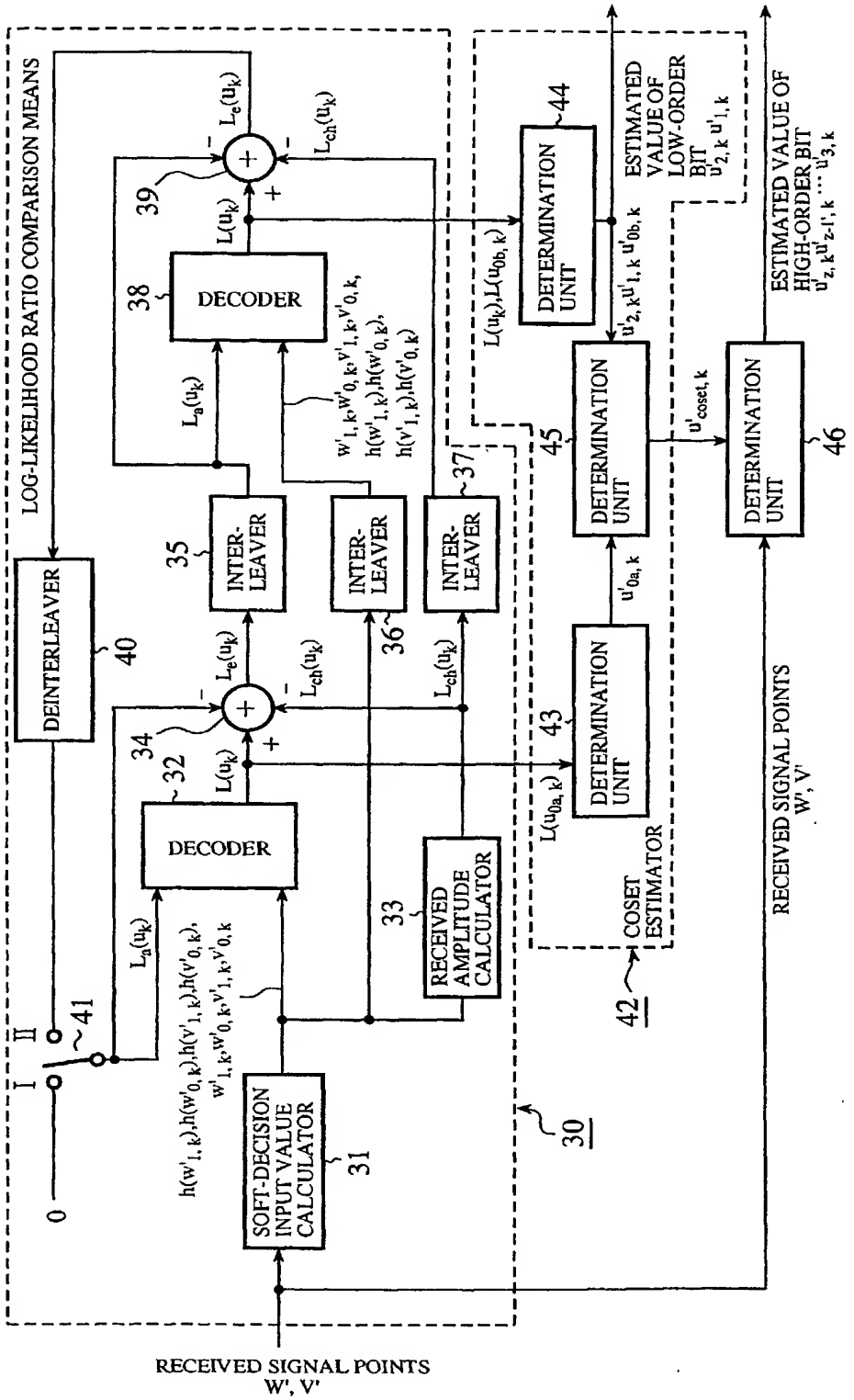
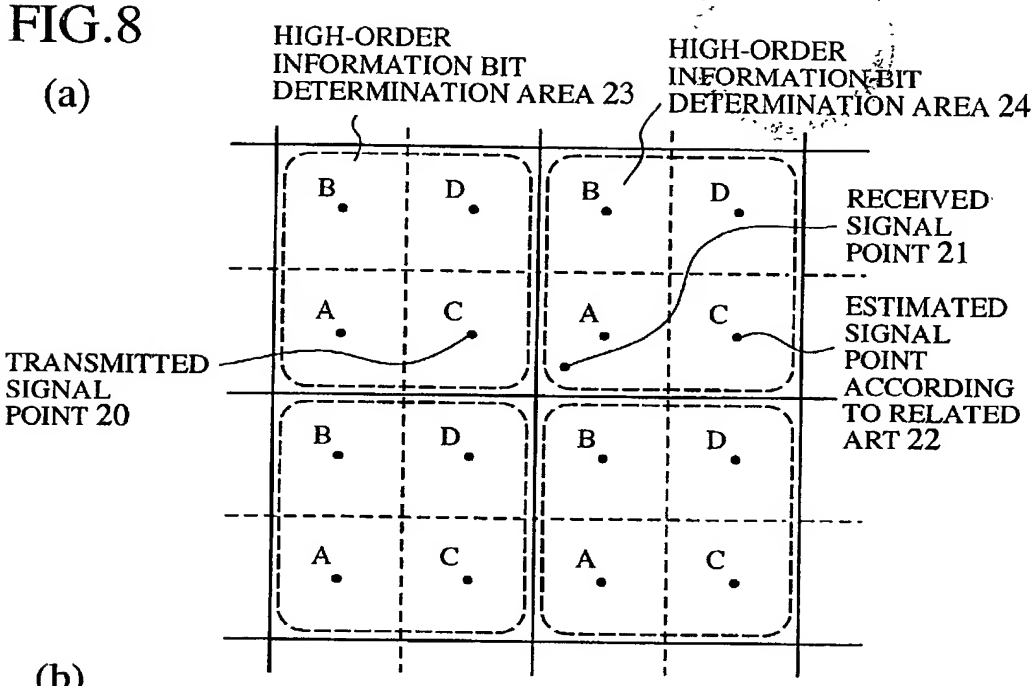
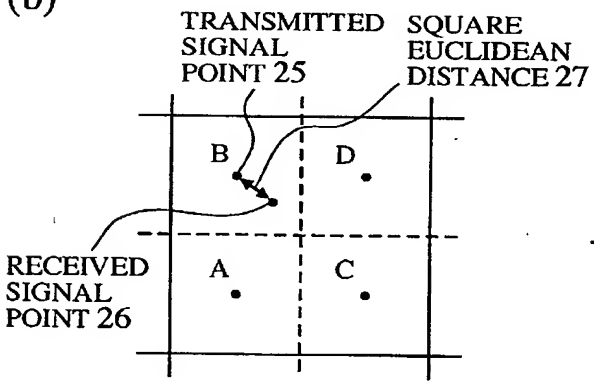

LOG-LIKELIHOOD RATIO COMPARISON MEANS
DEINTERLEAVER
40
SOFT-DECISION INPUT VALUE CALCULATOR
31
DECODER
32
INTER-LEAVER
35
DECODER
38
INTER-LEAVER
36
INTER-LEAVER
37
RECEIVED AMPLITUDE CALCULATOR
33
DETERMINATION UNIT
43
DETERMINATION UNIT
45
DETERMINATION UNIT
44
DETERMINATION UNIT
46
COSET ESTIMATOR
42
30
RECEIVED SIGNAL POINTS W', V'
RECEIVED SIGNAL POINTS W', V'
ESTIMATED VALUE OF LOW-ORDER BIT
ESTIMATED VALUE OF HIGH-ORDER BIT

FIG.8

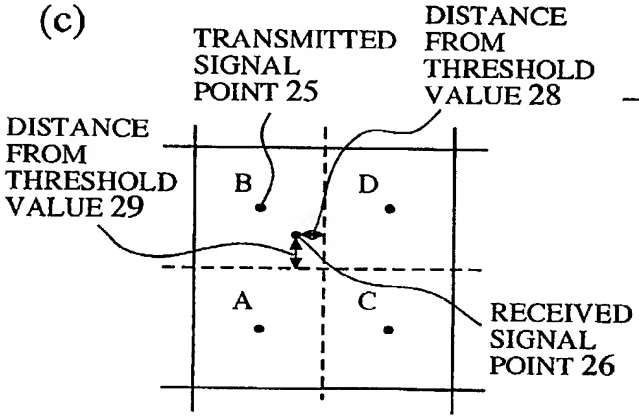
(a)



(b)



(c)



(d)

COSET	$h(w'_{1,k})$	$h(w'_{0,k})$
A	0	0
B	0	1
C	1	0
D	1	1

COSET	$h(v'_{1,k})$	$h(v'_{0,k})$
A	0	0
B	0	1
C	1	0
D	1	1